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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/089,013	03/25/2002	Howard Marshall	P32422	9132

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EXAMINER
BERNHARDT, EMILY B

ART UNIT	PAPER NUMBER
1624	

DATE MAILED: 05/08/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
10/089,013	MARSHALL ET AL.
Examiner	**Art Unit**
Emily Bernhardt	1624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-9 and 11-16* is/are rejected.

7) ☒ Claim(s) *10* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

The abstract of the disclosure is objected to because it does describe intended uses. Correction is required. See MPEP § 608.01(b).

Claims 9, 11-13, and 15-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1.In claim 9 there is no compound "E1-E73" described above. If applicants are really relying on species described in the specification , note reliance on the specification to define claimed subject matter is permited only under certain circumstances as discussed in Ex parte Fressola 27 USPQ 2d 1608.

2. In claim 11 reactant (II) is incomplete as written as N has a missing bond. It appears "H" may have been omitted. In the same claim the 2nd optional step is not describing the invention as no reactants are set forth or products much less reaction conditions defining the interconversion(s) intended. This step should be deleted.

3. Claims 11-16 fail to further limit the scope of claim 1 since recitation of intended uses in such claims is given no material weight.

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 12-13 and 15-16 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims drafted in terms of use have been held to be non-statutory. See Clinical Products v. Brenner 149 USPQ 475.

Claims 1-8, 11-16 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

1. Specification is not adequately enabled for the scope of piperazines claimed which can have a variety of Ra rings both fused and unfused linked in turn to more aryl or heteroaryl or heterocycle rings as in definition (ii) . Compounds that have ben made and tested according to the specification for the most part are directed to formula (i) where P1 is phenyl or naphthyl with one example of P1 as pyrazolyl. For (ii) the only examples of hetero rings are at P2 as pyridyl,pyrazinyl, oxazolyl

and oxadiazolyl. No examples of saturated hetero rings are seen much less benzofused derivatives also claimed. R2 when cyclic is exemplified for oxadiazolyl or pyrrolidine,piperidine- the latter two representative of the rings described on p.3,second paragraph. Otherwise, there is no reasonable basis for assuming that the myriad of compounds embraced by the claims with varying the size and degree of unsaturation of the N- W ring system will all share the same physiological property relied on (i.e. as selective 5-HT1B antagonists) since they are so structurally dissimilar as to be chemically non-equivalent and there is no basis in the prior art for assuming the same. Receptor binding is known to be structure-sensitive as evidenced at the very least by applicants' own statement made in the specification (on p.19) that for exemplary compounds of the invention the range in pKi activity varied as much as 100-fold. Note In re Surrey 151 USPQ 724 regarding sufficiency of disclosure for a Markush group. Also see MPEP 2164.03 for enablement requirements in cases directed to structure-sensitive arts such as the pharmaceutical art. Also note the criteria for enablement as set out in In re Wands cited in MPEP 2164.01(a),August 2000 edition. Thus given the breadth of the claims, the level of unpredictability in the art and the lack of direction (i.e. working examples) provided

as to what other rings,ring systems as heteroaryl (at various locations) and 5-7 membered heterocycles might work, this rejection is being applied.

2. Scope of diseases covered by claims 15 and 16 (drafted in terms of use) are not remotely enabled based solely on instant compounds' ability to selectively antagonize 5HT-1B receptors. From a reading of the specification (on p.7) these include eating disorders, sleep disorders, Parkinson's and other motor disorders,memory disorders,etc. Gaster, a very recent review article, provided herein, at best shows a potential for treating depression on p.24. Where the utility is unusual or difficult to treat or speculative, the examiner has authority to require evidence that tests relied on are reasonably predictive of in vivo efficacy by those skilled in the art. See for example, In re Ruskin 148 USPQ 221; Ex parte Jovanovics 211 USPQ 907. Note MPEP. 2164.05(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-9,11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gaster (WO'358, WO'637 and WO'885). Each of the commonly assigned publications cited as relevant by the ISA describes very similar compounds to that claimed herein for uses based on affinity for one or more 5HT1 receptor types. In WO'358 see compounds beginning on p.4 through 12 and the corresponding examples. In WO'637 see examples 1-8 and in WO'885 see last species at the top of p.6. Note that each of the WO publications teaches at least one of the alternate routes claimed in process claim 11. In WO'358 all the routes are taught beginning on p.12-13. The compounds in the prior art differ only in having hydrogens on the piperazine ring vs. the presence of 2 methyls at instant Rd and Re. H vs 1or 2 Me's in otherwise old compounds is not considered patentable absent evidence of superior,unexpected results. Note In re Wood 199 USPQ 137; In re Lohr 137 USPQ 548; In re Fauque 121 USPQ 425. Applicants urge starting materials of formula III needed to prepare methylated final products are commercially available or easily prepared by conventional routes.See p.5. Thus it would have been obvious to one skilled in the art at the time the invention was made to expect compounds claimed herein that are methylated on the piperazine ring to also

possess the uses taught by the art in view of the close structural similarity outlined above and their preparation via instant reactants an obvious expedient.

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-9,11-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-9 of U.S. Patent No. 5,696,122. Although the conflicting claims are not identical, they are not patentably distinct from each other because they embrace subject matter that are obvious variants. US'122 correponds to WO'637 applied above and thus the sole difference between the two sets of claims is the presence of the methyl groups on piperazine as discussed above.

Claims 1-9,11-16 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,159,979. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patent also embraces bicyclo rings corresponding to the scope of instant N-W with otherwise similar rings at Ra, the sole difference being the presence of instant methyl groups. US'979 corresponds to WO'885 applied above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned 5,696,122 and 6,159,979,

discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 37 CFR 1.78(c) and 35 U.S.C. 132 to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

The examiner has conducted a search for an US equivalent for WO'358 and found nothing by way of an inventor search. Is this correct? If not identification of such is requested.

Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The species embraced by this claim additionally require substituents at the 2,3 ring positions of phenyl or pyrrolidone on pyridinyl which are not particularly suggested by the closest art applied above .

Any inquiry concerning this communication should be directed to Emily Bernhardt at telephone number (703) 308-4714.

A facsimile center has been established for Group 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier numbers for accessing the facsimile machine are (703) 308-4556 or (703) 305-3592.

E Bernhardt

EMILY BERNHARDT

PRIMARY EXAMINER

GROUP 1600